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10/508,785

09/23/2004

Kakuichi Shiomi

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3927

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EXAMINER

VO, HUYEN X

ART UNIT

PAPER NUMBER

2626

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/508,785

Applicant(s)

SHIOMI ET AL.

Examiner

Huyen X. Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4 sheets.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Synergetics, INC (from IDS).

3. Regarding claim 1, Synergetics discloses a sensitivity enhancement apparatus for chaos theoretical diagnosis used as a preprocessing apparatus to be connected to a chaos theoretical voice diagnosis apparatus for analyzing voice uttered by an uttered by using a chaos theory technique, calculating a Lyapunov exponent, and measuring and evaluating a change state of the calculated Lyapunov exponent, comprising:

a voice input apparatus for acquiring the uttered voice (*page 14, lines 5-17*);

an analog-digital conversion apparatus for converting the uttered voice acquired by the voice input apparatus to digital voice data (*page 14, lines 5-17*);

a comparator for selecting voice data having a level which is equal to or higher than a certain level, from the digital voice data converted by the analog-digital conversion apparatus and outputting the voice data thus selected (*page 15, lines 10-31, make determination whether the input voice data contain voice or noise (quiet)*);

a voice data cutout apparatus capable of cutting out voice data having a level which is equal to or higher than a certain level output from the comparator, while taking a phoneme as unit (*page 15, lines 10-31, if the comparison section determines that the input voice data contain voice, the voice data is selected for further processing in identifying phoneme as indicated in page 9, lines 5-17*); and

a voice data output apparatus for outputting voice data of phoneme unit output from the voice data cutout apparatus (*speech output 50 in figure 2*).

4. Regarding claims 2-3, Synergetics further discloses the sensitivity enhancement apparatus for chaos theoretical diagnosis according to claim 1, an internal memory for storing the voice data output from the comparator (*figure 2 includes memory for storing voice data*); a phoneme database for storing phoneme data to be collated with the voice data stored in the internal memory (*figure 2, the host system*); and a phoneme collation apparatus for cutting out and outputting only a phoneme that coincides with the phoneme data in the phoneme database from the voice data of an internal memory (*page 9, lines 5-16, only voice portion of the signal is cut out from the original signal for analysis and determination of corresponding phonemes*); are connected between the comparator and the voice data cutout apparatus (*figure 2, system components are connected to each other*).

5. Regarding claim 4, Synergetics further disclose the sensitivity enhancement apparatus for chaos theoretical diagnosis according to claim 1, wherein the voice data

cutout apparatus starts voice data cutout from the voice data stored in the internal memory at a moment utterance of a preset vowel or consonant is started, and finishes the voice data cutout at a moment utterance of at least one phoneme is finished, and thereby cut outs unit voice data formed of a phoneme or phoneme sequence (*page 15, lines 10-31, each word utterance in a speech signal begins with a silence and ends with a silence. When comparing with the threshold, only portion of the speech signal that contains words or voiced information is separated from the silence portion of the speech signal for further processing in identifying phonemes*).

6. Regarding claim 5, Synergetics further disclose the sensitivity enhancement apparatus for chaos theoretical diagnosis according to claim 1, wherein the voice data cutout apparatus comprises a phoneme discrimination section for arbitrarily selecting and setting a phoneme or phoneme sequence, and cuts out unit voice data formed of a phoneme or phoneme sequence that coincides with a specific phoneme or phoneme sequence set by the phoneme discrimination section, from the voice data stored in the internal memory (*page 24, lines 10-30, identifying phonemes by comparing characteristic of the voiced portion of the speech signal with standard phoneme models to determine a match*).

7. Regarding claims 6-7, Synergetics further discloses the sensitivity enhancement apparatus for chaos theoretical diagnosis according to claim 4, wherein the voice data cutout apparatus comprises offset providing means capable of providing a cutout start

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moment and a cutout end moment with an offset value equal to one phoneme or less, and when cutting out unit voice data formed of a phoneme or phoneme sequence from the voice data stored in the internal memory, the cutout start moment and the cutout end moment can be adjusted by the offset providing means (*page 11, line 28 to page each time segment is composed of a plurality of time slices, and only a few time slices that contain sound data which is most pertinent to the identification of the sound are used. So, time slices that are not used to identify phoneme for a particular time segment are considered offset value*).

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HXV

6/7/2007

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